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WAITS, ALAN B

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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## **DETAILED ACTION**

### ***Drawings***

1. The drawings were received on February 29, 2008. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 8 recite the limitation "a contact surface" twice. It is unclear if these are the same contact surfaces or two separate surfaces.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, and 8, 10,11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentani et al USP 4425770 in view of Schelling et al USP 5988679.

Mentani discloses a similar device comprising:

Re clm 1:

Art Unit: 3682

- Steering column (fig 2) provided with a steering lock mount portion (SJ, fig 2) on its outer circumference and supporting a steering shaft rotatably (ST, fig 2)
- Steering lock (bottom portion of fig 2) having a lock key (36, fig 3) for latching said steering shaft (ST, fig 2 below) and a contact surface (portion of 23 that contacts SJ, fig 2) that is in contact with a first part (portion of SJ that contacts 23, fig 2) of an abutting surface (outside of SJ, fig 2) of said steering lock mount portion of said steering column
- Lock bracket (38, fig 2 below) having a contact surface (portion of 38 that contacts SJ, fig 2) that is in contact with a second part (portion of SJ that contacts 38, fig 2) of the abutting surface of said steering lock mount portion (SJ, fig 2)
- Contact surface (portion of 23 that contacts SJ, fig 2) of said steering lock (bottom portion of fig 2) and said contact surface (portion of 38 that contacts SJ, fig 2) of said lock bracket (38, fig 2) embracing said steering lock mount portion (SJ, fig 2) of said steering column (fig 2)

Mentani does not disclose:

- At least one of the first part (portion of SJ that contacts 23, fig 2) and the second part (portion of SJ that contacts 38, fig 2) of the abutting surface (outside of SJ, fig 2) of the steering lock mount portion (SJ, fig 2) has a cross-sectional shape of variable radius, with the corresponding one of said contact surfaces being of a shape complementary thereto

Schelling teaches a steering column bracket interface comprising:

- At least one of the first part and the second part (6, fig 1) of the abutting surface of the steering lock mount portion has a cross-sectional shape of variable radius (c 2, ln 49-51); with the corresponding one of said contact surfaces being of a shape complementary thereto (as shown in fig 1)

for the purpose of locking the steering column in place and preventing relative rotation of the steering column inside the bracket (c 1, ln 49-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Mentani and provide:

- At least one of the first part and the second part of the abutting surface of the steering lock mount portion has a cross-sectional shape of variable radius, with the corresponding one of said contact surfaces being of a shape complementary thereto

for the purpose of locking the steering column in place and preventing relative rotation of the steering column inside the bracket.

Re clm 2, Schelling's steering column bracket interface further comprises:

- Said first part of the abutting surface of said steering lock mount portion has a part-circular cross-section (as shown in fig 1)

Re clm 3:

- Steering lock mount portion is plastically formed by a bulge process

Claim 3 is a product-by-process claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the

Art Unit: 3682

same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

Re clm 4:

- Steering column includes a plastically formed portion other than said steering lock mount portion and said plastically formed portion is plastically formed by a bulge process simultaneously with the steering lock mount portion

Claim 4 is a product-by-process claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

Re claim 8:

- Steering column (fig 2) rotatably supporting a steering shaft (ST, fig 2) and provided with a steering lock mount portion (SJ, fig 2) having an abutting surface (outside of SJ, fig 2) on its outer circumference
- Steering lock (bottom portion of fig 2) having a lock key (36, fig 3) for latching said steering shaft (ST, fig 2 below) and a contact surface (portion of 23 that contacts SJ, fig 2) complementary to and in contact with a first part (portion of SJ that contacts 23, fig 2) of said abutting surface
- Lock bracket (38, fig 2 below) having a contact surface (portion of 38 that contacts SJ, fig 2) complementary to and in contact with a second part (portion of SJ that contacts 38, fig 2) of the abutting surface

- The steering lock being attached to the lock bracket such that said contact surface of the steering lock and said contact surface of the lock bracket embrace said steering lock mount portion (as shown in fig 2)

Mentani does not disclose:

- Said abutting surface (outside of SJ, fig 2) has a non-uniform shape in cross-section such that said abutting surface and at least one of said complementary contact surfaces cooperate [so as to prevent relative rotation between the steering lock and the steering column]

Schelling teaches a steering column bracket interface comprising:

- Said abutting surface has a non-uniform shape in cross-section (6, fig 1) such that said abutting surface and at least one of said complementary contact surfaces cooperate [so as to prevent relative rotation between the steering lock and the steering column]

for the purpose of locking the steering column in place and preventing relative rotation of the steering column inside the bracket (c 1, ln 49-51)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Mentani and provide:

- Said abutting surface having a non-uniform shape in cross-section such that said abutting surface and at least one of said complementary contact surfaces cooperate [so as to prevent relative rotation between the steering lock and the steering column]

Art Unit: 3682

for the purpose of locking the steering column in place and preventing relative rotation of the steering column inside the bracket.

Re clm 10, Schelling's steering column bracket interface further comprises:

- Said steering lock mount portion includes a bulging portion of said steering column (6 on left side of fig 1)

Re clm 11, Schelling's steering column bracket interface further comprises:

- Said steering column includes an additional bulging portion (6 on right side of fig 1) [plastically formed simultaneously with the steering lock mounting portion]

Claim 11 is a product-by-process claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

Re clm 13, Schelling's steering column bracket interface further comprises:

- One of the contact surfaces has a cross-sectional shape of constant radius and the other of the contact surfaces has a cross-sectional shape of variable radius (top of 7 is constant radius, bottom of 7 is variable radius, fig 1)

6. Claims 1,7-9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentani et al. USP 4425770 in view of Boersma et al. USP 6149526

Re clm 1, Mentani discloses a similar device comprising:



Art Unit: 3682

- Steering column (fig 2) provided with a steering lock mount portion (SJ, fig 2) on its outer circumference and supporting a steering shaft rotatably (ST, fig 2)
- Steering lock (bottom portion of fig 2) having a lock key (36, fig 3) for latching said steering shaft (ST, fig 2 below) and a contact surface (portion of 23 that contacts SJ, fig 2) that is in contact with a first part (portion of SJ that contacts 23, fig 2) of an abutting surface (outside of SJ, fig 2) of said steering lock mount portion of said steering column
- Lock bracket (38, fig 2 below) having a contact surface (portion of 38 that contacts SJ, fig 2) that is in contact with a second part (portion of SJ that contacts 38, fig 2) of the abutting surface of said steering lock mount portion (SJ, fig 2)
- Contact surface (portion of 23 that contacts SJ, fig 2) of said steering lock (bottom portion of fig 2) and said contact surface (portion of 38 that contacts SJ, fig 2) of said lock bracket (38, fig 2) embracing said steering lock mount portion (SJ, fig 2) of said steering column (fig 2)

Mentani does not disclose:

- At least one of the first part (portion of SJ that contacts 23, fig 2) and the second part (portion of SJ that contacts 38, fig 2) of the abutting surface (outside of SJ, fig 2) of the steering lock mount portion (SJ, fig 2) has a cross-sectional shape of variable radius, with the corresponding one of said contact surfaces being of a shape complementary thereto (the portion

of SJ that contacts 23 and the portion of SJ that contacts 38 are each complementary to SJ, fig 2)

Boersma teaches a steering column interface comprising:

- At least one of the first part and the second part (6, fig 1) of the abutting surface of the steering lock mount portion has a cross-sectional shape of variable radius (as shown in fig 3)

for the purpose preventing relative rotation of the steering column and its supporting member (abs.).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Mentani and provide:

- At least one of the first part and the second part of the abutting surface of the steering lock mount portion has a cross-sectional shape of variable radius, with the corresponding one of said contact surfaces being of a shape complementary thereto

for the purpose preventing relative rotation of the steering column and its supporting member.

Re clm 7, Boersma's steering column interface further comprises:

- Both the first part and the second part of the abutting surface have a cross-sectional shape of variable radius (fig 3 shows the whole abutting surface having a cross-sectional shape of variable radius)

Re clm 8:

Art Unit: 3682

- Steering column (fig 2) rotatably supporting a steering shaft (ST, fig 2) and provided with a steering lock mount portion (SJ, fig 2) having an abutting surface (outside of SJ, fig 2) on its outer circumference
- Steering lock (bottom portion of fig 2) having a lock key (36, fig 3) for latching said steering shaft (ST, fig 2 below) and a contact surface (portion of 23 that contacts SJ, fig 2) complementary to and in contact with a first part (portion of SJ that contacts 23, fig 2) of said abutting surface
- Lock bracket (38, fig 2 below) having a contact surface (portion of 38 that contacts SJ, fig 2) complementary to and in contact with a second part (portion of SJ that contacts 38, fig 2) of the abutting surface
- The steering lock being attached to the lock bracket such that said contact surface of the steering lock and said contact surface of the lock bracket embrace said steering lock mount portion (as shown in fig 2)

Mentani does not disclose:

- Said abutting surface (outside of SJ, fig 2) has a non-uniform shape in cross-section such that said abutting surface and at least one of said complementary contact surfaces cooperate (outside of SJ and portions of 23 and 38 that contact SJ are complementary and cooperate, fig 2) [so as to prevent relative rotation between the steering lock and the steering column]

Boersma teaches a steering column interface comprising:



Art Unit: 3682

- Said abutting surface (outside of 2, fig 3) has a non-uniform shape in cross-section (as shown in fig 3)

for the purpose preventing relative rotation of the steering column and its supporting member (abs.).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Mentani and provide:

- Said abutting surface having a non-uniform shape in cross-section such that said abutting surface and at least one of said complementary contact surfaces cooperate [so as to prevent relative rotation between the steering lock and the steering column]

for the purpose preventing relative rotation of the steering column and its supporting member.

Re clm 9, Boersma's steering column interface further comprises:

- Said first part of said abutting surface has a part-circular cross-sectional shape (corners of 2 are circular, fig 3)
- said second part of said abutting surface has a cross-sectional shape of variable radius (the whole cross-section of 2 has variable radius, fig 3)

Re clm 12:

- the contact surfaces of the steering lock and the lock bracket have cross-sectional shapes of variable radius (the whole cross-section of 2 has variable radius, fig 3)

Regarding the functional recitation(s) in the claim(s) above denoted by the “[ ]” the examiner notes while features of an apparatus may be recited either structurally or

functionally, claims directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. The reference discloses all the claimed structural limitations and therefore anticipates the claim. See MPEP 2114. Additionally, the apparatus is capable of performing the claimed functions.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-4 and 7-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN B. WAITS whose telephone number is (571)270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan B Waits/  
Examiner, Art Unit 3682

/Richard WL Ridley/

Supervisory Patent Examiner, Art Unit 3682